COUNTY CRICKET.

Mr. R. J. Hibberd, the headmaster of the village school of Grayswood, near Haslemere, left home on Friday for Holland, where, on Sunday afternoon, at the radio wireless station at The Hague, he "broadcasted" a lecture on "The Educational Possibilities of wireless." It is estimated that he had an English audience of at least 10,000 people, who were "listening in" for the lecture, which was delivered on a wave length of 1,030 metres. Mr. Hibberd, who is a member of the Wireless Society of London, is in much request as a teacher in this subject, and the village school of Grayswood, of which he is headmaster, has achieved considerable distinction inasmuch as it is, we believe, the only elementary school in the country where wireless telegraphy is a definite subject of the school curriculum.

In these days of the "wireless boom," when visions appear of aerials springing up in everyone's back garden, when the daily papers publish photographs of even dogs listening to their master's voice, and when we hear of wireless sets being installed in top hats and pocket books, it may be interesting to point out that at Grayswood School wireless has been a subject of study for the past two years.

IN TOUCH WITH THE WORLD.

In the old days the world of the country child was practically bounded by its own neighbourhood, and even now there are many children who have never been a great distance from their homes. But the boys and girls in the school of this village nestling in the valley below the slopes of Hindhead, live in a wide world, for they possess a wireless station of their own. The children are manifesting much enthusiasm in the subject, and the installation provides the school lessons with novel and stimulating interest. Mr. Hibberd is justly proud of the aptitude and keenness of his pupils, and recently informed a representative of the "West Sussex Gazette" that despite the sheltered position of the school capital results have been obtained from the wireless station. The Eiffel Tower time signals, which are taken each day, and the school clock adjusted accordingly, can be heard by the whole class of fifty-six children. Rouen, Coltana, Taranto and Malta have been "picked up," and Leafield, which is only 40 miles away, has been received "hot and strong." Mr. Hibberd declared that not only as a science lesson has wireless proved of great value, but also in the teaching of physical geography. Weather reports are taken, and decoded by him, and the information read in explaining climatic conditions, and the necessity of gaining speedy weather reports. It is only by experience, he added, that one can fully realize what real value wireless can be in a school.

It was the fact that Mr. Hibberd possessed a wireless set that first created curiosity and interest among his pupils in Grayswood School, to which he came in 1920 after distinguished service with the wireless section of the Royal Flying Corps. He therefore decided to introduce the subject into the school curriculum. This appeared to be rather a difficult matter, owing to the lack of scientific knowledge among the children and the necessity of imparting instruction in a very non-technical manner. But by the end of the first term surprising results were obtained, and it became possible to commence on real wireless work during the second term.

THE APPARATUS DESCRIBED.

A single wire aerial, 100 feet in length, was fixed from a tall oak tree to one of the school chimneys, and to it was joined the "lead in," which is connected with the instruments in the school. These consist of a three-valve receiver and amplifier, connected to a piece of apparatus called a "loud speaker," the whole instrument making one of the most up-to-date wireless stations in the country. The three-valve receiver is what is termed a Burndept, and incorporates all the advances made in wireless telegraphy. Amongst a number of coils and switches can be seen what appears to be three ordinary electric lamps. They are more than this, however; in fact, they may well be termed the Aladdin's lamps of wireless, for it is by means of these that music and speech can be received. In technical language they are termed thermionic valves, and they are so constructed that they detect incoming wireless waves, and magnify them when detected. The waves actually pass through these wonderful lamps, which are of special design and with a partial vacuum much higher than that of ordinary electric lamps. The filament portion is surrounded by a metallic cylinder, and electrons fly off from the filament and attach themselves to the cylinder owing to the attractive high power batteries to which it is connected. The larger the number of electrons which fly off the greater the magnification of the signals. As already stated, there are three of these valves in the instrument used. Consequently, when the incoming weak signals impinge on the aerial they are magnified by the first valve, and the resultant wave is magnified still more by the second valve, whilst the third valve makes it more powerful again. In fact the apparatus held in the school is capable of magnifying signals 300 times greater than when they are "picked up" on the aerial. It often happens that speech "comes in" actually louder than when it is spoken, so that it has to be weakened to make it clear. Speech from Croydon Aerodrome is always received as loudly as this. One can therefore easily appreciate the fact that the children can sit comfortably in their desks, and by means of the "loud speaker" listen to music from Paris or Berlin.

HOW WIRELESS IS TAUGHT AND USED.

Upon the visit of our representative to the school he found a large class of nearly sixty children listening intently for the Eiffel Tower time signals, which were heard distinctly all over the room by means of the "loud speaker." The sound is not
gramophone, but of course the app
something far different, and someth
bigger than that. Mr. Hibberd cla
by this instrument messages can be
from an area representing about
world. Not only that, but speech a
can be easily picked up, and quite
the children listened to selectio
famous composers which were being p
an orchestra at Konigs Wustenhause
many. A recent description of the a
of the school in the study of wireless
quoted: "The boys moved about amid
lection of instruments, switches, v
handles, coils, and all the fascinating
tus associated with wireless. And ver
they were, too, with this practical f
experimenting. One boy with a pair
phones to his ears was waiting for th
signals from Paris, 350 miles away. Another boy was listening for the weather report from Poldhu. 'See if you can detect any thunderstorms,' said the schoolmaster, as a youth delved into the secrets of the atmosphere many hundreds of miles away. The weather reports were used in connection with physical geography, the detection of thunderstorms played an important part in the science lesson, and the calculation of wireless wave lengths provided novelty in arithmetic, and so throughout the school work the wireless station played a useful part in making school hours fly."

On the occasion when we visited the school not only were the time signals and tape prices from Paris received, but also a musical programme and everything came in beautifully clear. The tone was much more pure than ordinary line telephony. We afterwards went up to Mr. Hibberd's house where he has a complete wireless set of his own manufacture. A second visit was arranged, and on that occasion we had the pleasure of listening to a concert at The Hague, when songs, violin solos, pianoforte selections, and even the speech of the promotor, came through with remarkable clearness. Mr. Hibberd has devised a special arrangement which we think must be unique. While sitting down to tea he can control his wireless station upstairs in such a way that those in the house can enjoy music from Paris without the need of going near the apparatus. Moreover, the sound is so loud that the wireless telephone receivers are unnecessary.

Lecture on Wireless.—A very enjoyable social gathering was held in the Village Hall on Wednesday evening, and was attended by a company of about 120 people. The arrangements were made by the committee of the Village Hall, and Dr. C. W. Jenner presided, the event being one of a series which is intended to be of an educational character. The chief feature of the evening was a lecture by Mr. R. J. Hibberd, headmaster of Grayswood School, on the principles of wireless telegraphy, and this was accompanied by a practical demonstration. An aerial was erected outside the hall, and by means of a "loud speaker" both music and speech were broadcasted to the audience. Mr. Hibberd picked up concerts at Marconi House and Birmingham, and also received the weather report from the Air Ministry in Morse, which he translated on the blackboard. He also produced signals through the human bodies of a number of those present, and finally enabled his audience to hear Big Ben chiming 10 o'clock. The lecture was most interesting and instructive, and both speech and music was heard quite distinctly at the back of the Hall. At the close a very hearty vote of thanks was accorded to Mr. Hibberd.

Hibberd

From **ROMEIKE & CURTICE, Ltd.** Tel. 7652 CITY

Amateur Wireless

Date 23. JUN 1923

Proposed Schools' Radio Society

A SUGGESTION to form a "School
Radio Society of Great Britain" wa
recently placed before the Radio Society of Great Britain with the proposal that the Schools' Society should be affiliated to, and under the guidance and control of, the Radio Society of Great Britain. The matter was carefully considered by the committee, and it was decided to give support to such a scheme. Dr. Eccles, F.R.S., has undertaken to act as president of the schools section, whilst it is suggested that two vice-presidents might be selected from prominent educationists.

The organising secretary is Mr. R. J. Hibberd, Grayswood School, Haslemere, Surrey